



Outstanding Achievements & Excellence In
Coastal Conservation
To Create A
More Sustainable Future For Florida

Program Summaries

By The
THE COUNCIL FOR SUSTAINABLE FLORIDA

Sponsored By
The Florida Department of Community Affairs
The Florida Department of Environmental Protection
And
The National Oceanic Atmospheric Administration

OCTOBER 2002



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Credits

We wish to thank the Florida Department of Community Affairs and the Florida Department of Environmental Protection/Florida Coastal Management Program for sponsoring this report, and the National Oceanic and Atmospheric Administration for providing funding.



Introduction

We are pleased to share with you these brief summaries of the work that Floridians are doing to protect and restore our coastal areas. With approximately 8,400 miles of tidal coastline, this is no easy task.

With assistance from the National Oceanic Atmospheric Administration (NOAA), the Florida Department of Community Affairs, and the Florida Department of Environmental Protection, the Council for Sustainable Florida sought to identify outstanding achievements and excellence in coastal conservation efforts. We invited partners from state government, environmental and business groups, state association leaders, and community organizations to make nominations for consideration. We appreciate their help and diligence in recommending individuals and organizations familiar to them from around Florida.

Board Members of the Council for Sustainable Florida reviewed applications and had the challenging task of selecting the best. Our goal is to learn from the experience of these leaders so that their accomplishments can be spread throughout the state to advance our mission to create a more sustainable future for Florida.

We invite you to join this movement by helping to disseminate the best practices identified in this publication. We also welcome your participation by inviting you to tell others about this program, and to encourage others to submit an application for 2003 so that we may identify additional noteworthy efforts to protect and restore Florida's coastal areas.

Please visit our website at www.sustainableflorida.org to download the application and learn more about the 2003 solicitation process.

Sincerely,

J. Allison DeFoor, II
President
Council for Sustainable Florida

Acknowledgements

*We appreciate the assistance of our
Collaborative Partners in identifying these exemplary initiatives:*

1000 FRIENDS OF FLORIDA

FLORIDA ASSOCIATION OF COUNTIES

FLORIDA ATTRACTIONS ASSOCIATION

AUDUBON OF FLORIDA

FLORIDA DEPARTMENT OF AGRICULTURE

FLORIDA DEPARTMENT OF BANKING AND FINANCE

FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

FLORIDA DEPARTMENT OF STATE, DIVISION OF HISTORICAL RESOURCES

FLORIDA DEPARTMENT OF TRANSPORTATION

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

FLORIDA MANUFACTURING AND CHEMICAL COUNCIL

FLORIDA PHOSPHATE COUNCIL

FLORIDA WATER MANAGEMENT DISTRICTS

FLORIDA WILDLIFE FEDERATION

FRIENDS OF FLORIDA STATE PARKS

KEEP FLORIDA BEAUTIFUL/ADOPT-A-SHORE

THE NATURE CONSERVANCY

Outstanding Achievements & Excellence In Coastal Conservation Program Summaries

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Apalachicola Bay and River Keeper (ABARK), Inc.

EASTPOINT, FLORIDA

The Apalachicola River and Bay supports a uniquely rich ecosystem which is at the center of an “Old Florida” quality of life. The protection and preservation of that ecosystem is increasingly recognized by the community at large as a critical component for the future. Disregard for this sensitive ecosystem and estuary could result in the depletion of a multi-million dollar seafood industry and the seedbed of 90 percent on the oysters grown in Florida. Additionally, rising property values in this coastal region are dependent on positive steps to protect and preserve the unique look and feel of “Old Florida.”

ABARK was founded with the vision and initiative of three principal participants: Bill Hartley, Andrew Jubal Smith and Susan Anderson. It was an outgrowth of a joint DEP/DCA effort to prompt local grassroots ownership of the need to protect the Apalachicola River and Bay. Incorporated as a 501(c)3 organization in 1999, the founders were able to secure grant funding from the Elizabeth Ordway Dunn Foundation, the Turner Foundation and the U.S. Fish and Wildlife Service. Directors and an Advisory Board were established and an Executive Director was hired. It officially affiliated with the Water Keeper Alliance, an international organization dedicated to the protection and preservation of our rivers and bays.



ABARK’s advocacy for protecting critical habitat has resulted in amendments to the Franklin County Comprehensive Plan which have become a model for citing large developments. Their sea turtle protective lighting program resulted in dramatic decreases in hatchling disorientation and the return of successful sea turtle nesting on nearby St. George Island. Recognizing the importance of upstream protection, it incorporated the Wewahitchka and Chipola River groups as part of the confederacy. Recently, an Alligator Point citizens group and the Apalachee Ecological Conservancy have joined the ABARK coalition as well.

In addition, ABARK assumed a leadership role in gaining endorsement of all six Florida counties bordering the river for development of a sound Apalachicola-Chattahoochee-Flint Water Allocation Formula which is critical to the future of the Panhandle. ABARK is considered a model in being proactive in shaping good policy rather than just reacting to bad.

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The Bonita Bay Group

BONITA SPRINGS, FLORIDA

Southwest Florida beaches, especially Bonita Beach, are active turtle-nesting areas. On a densely developed beach, artificial night lighting can disturb adult sea turtles' nesting routine and also confuse tiny hatchlings that run toward lights instead of the water.

Seeking a beachfront area for a new inland development, the Brooks, the Bonita Bay Group, hoped to create a quality beach club facility in harmony with nature. Consultants and environmental experts were invited to provide input into the development and to participate in ongoing turtle nesting protection activities.

The resulting Brooks Beach Club replaced two early-vintage duplex rental units with a less intensive use facility and with state-of-the-art features designed to protect and enhance the sites natural assets. These included:

Lighting—Low-pressure sodium lights on 12-foot poles in the parking lot do not attract sea turtles away from the water. Bollard-style lights, which have louvers to direct lighting, are used along walkways and stairs, and are not visible on the beach side of the facility. Lighting inside the open pavilions is recessed into the peak of each roof; and baffles direct it straight down.

Landscaping—Non-native and exotic vegetation was removed. Sea grapes were planted to restore and protect the beach's natural vegetation line. This natural line is used by turtles as a guide in locating nesting places on the beach. The principles of Xeriscape were followed by using native plants that need little care and water.

Boardwalks—Wooden boardwalks direct foot traffic to designated areas, including the dune crossing. The elevated construction allows light and water to filter to the underlying sand to support plant life and provide shelter for small wildlife.

Education—Educational signage alerts and educates people about turtle nesting and promotes “lights out for turtles” during nesting season, May 1 through October 30.



The Brooks Beach Club was designated a “Turtle Friendly Facility” by a local environmental group and chosen for the turtle season kick-off, an awareness program to educate residents and visitors about sea turtles, their nesting habits and ways they can help protect the endangered animals. A rehabilitated loggerhead turtle was released there in recognition of the turtle friendly efforts of the development.

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Cargill Crop Nutrition

RIVERVIEW, FLORIDA

Cargill Fertilizer is a large landowner who operates a fertilizer manufacturing plant on the Alafia River and Hillsborough Bay. The company maintains a long-term commitment to sustainable operations and has been leading an effort to restore and protect the coastal area around its plant. As a leader in a new state permitting process that focuses on Ecosystem Management, Cargill worked closely with community members, federal, state and local agencies, and environmental groups to develop and now implement a series of compensation projects that result in a “net environmental benefit” in exchange for plant expansion.

Highly innovative in design and approach, their resultant Integrated Land Management Plan has been established as a website, www.cargill-nb.com, which displays baseline conditions, project activities, photographs, GIS maps, descriptions, as well as participant comments and recommendations. Cargill’s activities include:

- Removal of Brazilian pepper trees and other exotic/nuisance species and long term maintenance of approximately 320 acres along Hillsborough Bay
- Restoration of native bay habitats along 4 miles of Tampa Bay shoreline
- Removal of derelict boats near the mouth of the Alafia River
- Establishment of an environmental education center overlooking the Alafia Banks Bird Sanctuary
- Shoreline cleanup and litter removal at various outparcels

- Establishment of a Progress Village Community Garden
- Restoration of channelized Archie Creek
- Capital contribution for establishment of a park facility in Gibsonton
- Contribution for an environmental education section in the local library



Progress on all of these activities can be monitored by logging onto the website.

Agency members can review and approve permit information electronically with the use of a password and a personal identification number. School children, scientists and environmental advocates can remain informed about the latest news at the Cargill facility and can catch a glimpse of restoration work without donning hiking boots and mosquito repellent.

Of major importance to stewards of the bay is Cargill’s commitment to place several hundred acres of bayside property into permanent preservation; they successfully petitioned to change the county’s comprehensive future land use classification to Natural Preservation.

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Clean It Up, Green It Up

JACKSONVILLE, FLORIDA

With a consolidated government covering 840 square miles, a SMSA population of over one million, over 1,000 miles of major transportation corridors, a major river and tributaries, a significant coastal and estuary area, and a high rate of growth, Jacksonville faced a variety of waste, urban decline and environmental issues. Mayor John Delaney recognized that government could not solve all the problems alone, but could serve as an initiator and catalyst to involve citizens, neighborhoods and businesses in the “cleaning and greening” of the city. Clean It Up, Green It Up, was established in 1996 to serve as the local affiliate of Keep Florida Beautiful. Some of the major accomplishments include:

- An intensive media campaign labeled “Don’t Trash Jacksonville” consisting of print, radio and television ads aimed at promoting public understanding, interest and participation in efforts to clean up the city.
- Over 300,000 trees, provided by Jacksonville Electric Authority, have been given away and planted by citizens, community groups, schools and neighborhood associations.
- Volunteer Cleanup Projects include: Adopt-A-Shore, Adopt-A-Road, International Coastal Cleanup, July 5th Beaches Cleanup, Neighborhood Cleanups, St. Johns River Celebration and Cleanup, resulting in 10,562 volunteers participating in 961 cleanup efforts. The local St. Johns River Celebration alone resulted in the collection of over 40,000 pounds of trash.



In partnership with the Jacksonville Sheriff’s Office, an innovative litter prevention program initiative was launched which included tear-off pads stating laws associated with unsecured cargo, illegal dumping and littering to be handed out by uniformed officers. An annual “Litter Awareness Week” utilizing over 400 uniformed police officers to target motorists, residences and businesses with information to deter violators.

- A Partnership with the Duval Public Schools Driver Education program to provide warning sheets and educate new drivers about environmental responsibilities of drivers.
 - A new campaign, the Clean Business Program, emphasizes litter prevention from careless business practices such as unsecured cargo, distributing flyers and poorly maintained outside areas such as loading docks, dumpsters and parking lots.
 - A Neighborhood Cleanup Planning Envelope provides technical assistance to neighborhood associations and other community groups to organize a local cleanup effort; bags and gloves and other materials are provided.

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Florida Power & Light Company (FPL)

JUNO BEACH, FLORIDA

Since 1976 Florida Power & Light has maintained and enhanced a program to promote the protection of sea turtles and their nesting beaches through public education, resource protection and research. Their efforts have clearly paid off. More than 17,000 visitors have participated in the company sponsored guided turtle walks along 2.5 miles of beach protected by FPL. In 2000, 8,227 loggerhead nests, 470 green turtle nests, and 94 leatherback nests were recorded as part of the nesting survey.

In 1995 FPL produced a brochure addressing the harmful effects of artificial lighting on sea turtle populations. This led to FPL sponsoring the development of the Coastal Roadway Lighting Manual that serves as a guide for coastal community planners to minimize artificial lighting impacts on sea turtles. FPL convened a wide array of technical, transportation, environmental and business and community representatives to develop effective strategies for protecting nesting areas while meeting other community needs.

The staff at the Energy Encounter Center created a backpack with materials and instructions so trail users can perform hands-on experiments for an interactive, environmental learning experience. These Eco-Detective backpacks are designed for children from kindergarten through 5th grade.

FPL's program to provide free literature upon request is also

very popular. For example, during the first three months of 2002 about 5,000 of each of the "Florida's Sea Turtles" brochure and the "Sea Turtle and Lights" brochure were mailed to customers. Close to 500 "Florida Sea Turtle" booklets and 1500 "Keep Sea Turtles in the Dark" bumper stickers were also distributed. Ordering and additional information may be found at their award-winning web site, www.fpl.com.



FPL also sponsors research on sea turtles, which provides scientists and environmental agencies with the knowledge to provide for sustainable protection strategies for turtles; FPL has one of the most extensive sea turtle databases in the world. They have allowed and encouraged turtle researchers to conduct experiments and studies on the beaches at the St. Lucie Plant site, and supported research on new technologies to address roadway lighting issues.

All of the FPL initiatives facilitate the peaceful and sustainable coexistence between people and turtles on Florida's beaches.

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Keep Brevard Beautiful (KBB)

BREVARD COUNTY, FLORIDA

Brevard County is surrounded by water, including the St. Johns River, Indian River Lagoon, Banana River and seventy-two miles of Atlantic coastline. To protect this precious resource, a small group of concerned citizens founded Keep Brevard Beautiful in 1981 in affiliation with Keep America Beautiful. Their efforts have grown to become a state and national model with tremendous results. In 2001 alone, 27,047 volunteers conducted 627 litter cleanups, removing an astounding 430,000 pounds of litter from Brevard County shorelines, roadsides and neighborhoods.

Brevard's innovative programs include:

- Classroom education for K-5 graders through the popular Pelly Programs which feature KBB mascot Pelly Can and Marine Debris education which features Marina De Briz, the treacherous mz. who loves all the trash in the sea. Early understanding of the role people play in littering and preventing littering serves to teach students the personally responsible way to handle waste.
- Over 150 Adopt-A-Shore and Adopt-A-Road teams regularly patrol their adopted areas and keep litter under control.
- Hot Spot Community cleanups are conducted in areas affected by litter.



- KBB also sponsors the St. Johns River Cleanup, the Ocean Conservancy Coastal Cleanup and the annual Trash Bash and After the 4th Fireworks Cleanup. All cleanup events have an educational component focused on litter reduction.
- An innovative Litter Hot Line allows citizens to report littering to the Sheriff's office resulting in letters being sent to vehicle owners, educating them about the illegality of littering and motivating them to stop.
 - Litter Hot Line car liter bags are distributed to all Drivers' Education Classes.
 - KBB has installed Trash Bag Depots at 40 boat ramps and beach crossovers through the county which contain personal-sized trash bags for use by beach visitors.

The Keep Brevard Beautiful organization has been extremely resourceful in accomplishing major changes with limited funds; they aggressively recruit partners and highly visible successful initiatives bring in other partners. In the Adopt-A-Shore program alone, they partner with Boeing Aerospace Company, Ron Jon Surf Shop, State Farm Insurance, Target, Home Depot, Publix and Waste Management of Florida, Inc.

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Lignumvitae Key State Park

ISLAMORADA, FLORIDA

The seagrass beds found in the waters of the Florida Keys provide nursery areas, feeding habitat and shelter for a wide variety of marine life. Accidental boat groundings, propeller scarring and turbidity from boat wakes contribute to the destruction of seagrass beds. Once damaged, recovery of this plant community may take as long as ten years. More knowledgeable and alert boaters were needed to protect this precious resource.

With the rapid growth of tourism in the area, the dilemma faced by the staff at Lignumvitae State Park was how to educate boaters unfamiliar with the fragile and important nature of seagrass meadows. Recognizing that it would take a concerted effort of many groups, they created the Lignumvitae Key Submerged Lands Management Area with a four point management plan that consists of:

1. Channel Marking and Zoning
2. Enforcement
3. Education
4. Research and Restoration

It is estimated that over \$800,000 has been contributed to this effort through budget allocations, donations, grants, individual expertise and volunteers by a wide array of participating groups, including: the Florida Park Service, Friends of The Islamorada Area State Parks, Florida Keys Environmental Restoration Trust Fund, Florida Keys National Marine Sanctuary, Monroe County Marine Resource, Upper Keys Backcountry Guides Association, The Seagrass Outreach Partnership, DEP - Coastal & Aquatic Managed Areas, National Marine Fisheries-

Beaufort Marine Lab, FWC - Florida Marine Research Institute, the Environmental Protection Agency and The Nature Conservancy.

An excellent educational brochure, "If You're Boating In the Lignumvitae Key Area Be Cautious In the Seagrass Beds", was developed and distributed by all. It includes a map of the restricted area and rules for navigating these waters as well as educational information about the function and importance of protecting seagrass beds. By adopting this regional approach to the protection of seagrass beds and enlisting partners from all walks of life, boater awareness of rules in the area and appropriate actions to take when grounding is increasing. Through increased public information and understanding, these collaborative efforts are making a difference in protecting these fragile ecosystems, and the approach is being replicated elsewhere in the state.



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Lydia Countryman Brown Elementary Teacher

EASTPOINT, FLORIDA

In 1997 Lydia started teaching interdisciplinary units in Environmental Education with her exceptional 4th - 6th grade students. With the enthusiastic involvement and learning by her students, she has developed a hands-on approach to teaching about coastal ecosystems, as well as providing substantial service in protecting the fragile beaches and estuaries in her area.

Initially, she secured a Partnership award for work with St. George Island State Park, which occupies almost one-half of a barrier reef island off Florida's northwest coast. Students were provided with hands-on learning opportunities while they provided service to the park. Buoyed by the success of this initiative, she expanded the program to include partners with Keep Franklin County Beautiful, Apalachicola National Estuarine Reserve, the Water Management District, St. Vincent National Wildlife Refuge, the 4H and County Extension Program, Wee Deliver Post Office Program for Schools, Oyster Radio and the Apalachicola Times Newspaper. Most recently she received a Learn and Serve Grant to perform environmental service projects throughout Franklin County with her Exceptional Student Education (ESE) students at Brown Elementary.

Lydia focuses her educational projects on helping students understand and appreciate our natural ecosystems and man's role in his environment. Her belief is that these students will carry what they learn in class with them as they become adult community members.

The environmental education projects are integrated into the academic curriculum and meet community and school-wide needs. Students are learning environmental citizenship objectives through real world learning experiences, and developing a sense of civic responsibility and caring for their environment.

In summary, she emphasizes that ESE students, in particular, benefit tremendously because it offers them community-based instruction, hands-on learning and cooperative group learning while they are doing wonderful projects to protect and restore their coastal environment.



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The Ocean Conservancy

FLORIDA COASTAL CLEANUP ST. PETERSBURG, FLORIDA

A bowling ball, ice cream maker, piano, telephone booth . . . What do these items have in common? They were all picked up off Florida's shores during Florida Coastal Cleanup.

The Florida Coastal Cleanup will celebrate its 15th year in 2002. Since its inception over 7.4 million pounds of debris have been cleaned from Florida's coasts and inland waterways. Increasing numbers of volunteers have cleaned up locally, even through inclement weather following Hurricane Floyd in 1999 and Hurricane Gordon in 2000. Last year over 25,000 Floridians participated in the Florida Coastal Cleanup on September 15, despite a direct hit from Tropical Storm Gabrielle and the terrorists attacks just four days previously.

The annual statewide cleanup effort is coordinated by The Ocean Conservancy (formerly the Center for Marine Conservation). They raise money and manage logistics for the event including the collection of data. In 2001, a new format for data cards shifted the focus from types of debris to the sources of debris. Analyzed and tracked year by year, this information has served as a powerful tool for educating the public, influencing public policy, and effecting positive behavioral change on the part

of individuals, organizations, and communities.

Armed with this new information, the Ocean Conservancy has persuaded six-pack ring manufacturers to use more degradable plastic, and convinced a tobacco company to initiate a major campaign to inform beachgoers about proper methods for disposing cigarette butts, which are the greatest source of debris.



Florida's Coastal Cleanup event provides a wonderful example of what can be accomplished when communities, businesses and environmentalists work together. There are numerous corporate sponsors and participants in the event, as well as scout troops, school groups, environmental groups, families and individuals of many ages.

And, although cleanup efforts are focused on the third Saturday in September, the lessons learned are having a major impact on reducing debris carelessly discarded on Florida's coastal areas year round.

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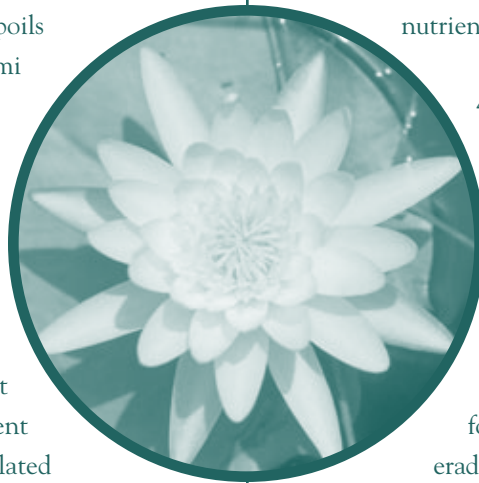
Parrot Jungle & Gardens (PJG)

MIAMI, FLORIDA

Parrot Jungle & Gardens (PJG) is a 14-acre botanical theme park with animal shows and exhibits located in Pinecrest (south Miami-Dade). Founded in 1936, it was one of Florida's earliest attractions. Miami is a very environmentally sensitive area with an extensive coastline that is vulnerable to pollution by agricultural chemicals and municipal waste. The horticultural management of PJG will become even more critical as it moves its location this year to Watson Island, a spoils formed island between Miami and Miami Beach, surrounded by Biscayne Bay.

Fortunately, over the past few years PJG has established a model Integrated Pest Management program which has demonstrated an environmentally friendly approach that has also produced considerable cost savings. The Integrated Pest Management Program consists of a number of interrelated activities:

1. Extensive use of compost and mulch--
 - Compost made on site has replaced the purchase of commercial potting soil in the plant nursery.
 - Compost is used as a horticultural top-dressing to replenish areas depleted by erosion, to add nutrients as a fertilizer amendment, and to improve the health of poor soil by aiding in the creation of a biologically active root zone.
 - Compost also has been proven to have fungicidal, nematicidal, and insecticidal properties to reduce chemical applications.



- Mulch derived from chipping tree branches aids in soil water retention, reduces weed growth, and increases nutrients available to plants.
2. A 75 percent reduction in the last ten years of inorganic fertilizers and high nitrogen products used on the grounds.
 3. Use of less water for irrigation, thereby minimizing nutrient leaching and fungal problems.
 4. A proactive pruning schedule for bananas, Heliconias, and similar plants which reduces available nutrients for insect invasions, thereby reducing, or eliminating pesticide spraying for insect and mite control.

Horticultural staff at PJG have even found a way to reduce and nearly eradicate the pervasive German cockroach through the use of traps and non-toxic treatments following a scientific understanding of cockroach behavior and reproduction.

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The Peace River Option

THE PEACE RIVER / MANASOTA REGIONAL WATER SUPPLY AUTHORITY SARASOTA, FLORIDA

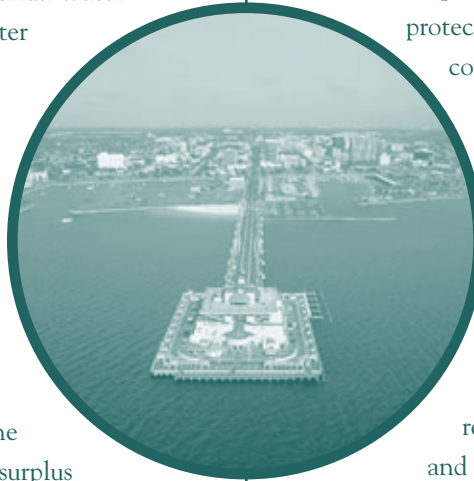
The Peace River/Manasota Regional Water Supply Authority was created as a special district of the state of Florida to develop solutions to the water shortage problems looming in the region. The Authority's region lies within the Southern Water Use Caution Area, an area designated of critical concern by the Southwest Florida Water Management District because of saltwater intrusion. Its purpose is to develop, recover, store and supply water for county or municipal purposes in an environmentally sound manner.

The Authority developed the Peace River Option, seeking to capture surplus surface water and thus preserve groundwater sources. The Peace River Option provides for the withdrawal of surface water only when surplus water is available and limits withdrawals to assure the maintenance and health of the downstream estuary and Charlotte Harbor. It includes a multi-source facility utilizing direct withdrawal from the river, an off-stream reservoir for raw water storage, and aquifer storage/recovery wells for treated water.

An important part of the project is the hydrobiological monitoring program, developed by local, regional, state and nationally renowned experts who provided input and recommended a broad scope of environmental indicators. The Authority actively monitors the environmental health of the lower Peace River and Charlotte Harbor to protect the estuary.

A recently completed pipeline distributes water to Sarasota County and then on to its southern neighbors as needed. The Sarasota Herald Tribune lauded the effort in an editorial, stating, "The Peace River project came to fruition without a water war, thanks to visionary leadership, a commitment to strict environmental protection standards and the participating counties' recognition of mutual self-interests in cooperation."

The National Association of Environmental Professionals cited the Peace River Option as an outstanding environmental stewardship initiative because it integrates federal and state agency regulatory requirements, community and infrastructure development needs, environmental sensitivity, public issues and concerns, and recreation and commercial interests into a long-term functioning system.



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Pensacola Shipyard Marine Complex

PENSACOLA, FLORIDA

Today, Florida has nearly 400 boatyards and 2000 marinas with over 800,000 registered boaters, not counting the enormous number of transient boats that visit Florida on a seasonal basis. The marine business is a \$10.2 billion dollar effort in our state.

To encourage clean boating practices and help protect fragile marine ecosystems, the Florida Department of Environmental Protection initiated the “Clean Marina” and “Clean Boatyard” designation as volunteer programs to implement best management practices. A previous recipient of the “Clean Marina” designation, the Pensacola Shipyard Marine Complex (PSMC) took on the additional challenge of becoming a “Clean Boatyard.”

Initial implementation of the 125 plus Marine Environmental/Best Management Practices was difficult and costly. But the investment of time, energy and money paid off in the long run with new revenues coming from recycled materials and increased business due to the publicity and reputation gained by the effort.

PSMC trained its maintenance boatyard staff and independent contractors in solid waste management, hazardous waste disposal and emergency response spill procedures. Pensacola Marina Environmental Policies are clearly posted and an electronic surveillance system was installed to monitor compliance with these policies. Boatyard workers, contractors and customers understand the importance of these policies. There is a strong desire

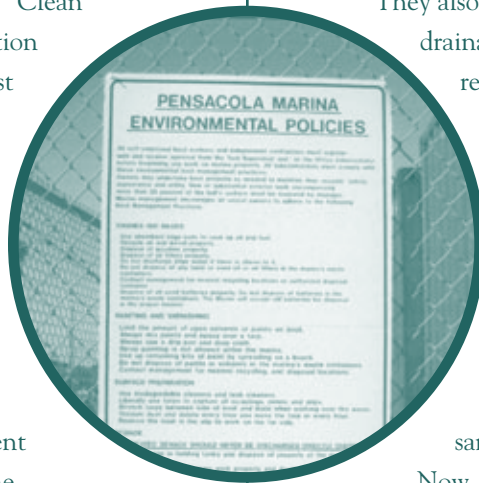
to self-regulate and a sense of pride within the boat yard, which increases the quality of the work.

A major component of the initiative has been disposal of waste, especially hazardous waste which is often a by-product of boat maintenance. PSMC installed containers for recycling and a hazardous waste containment area. All trash containers have clearly marked, appropriate signage.

They also installed a costly, but effective storm drainage catch basin that has an underground retention system designed to remove trash, debris and a portion of the sediment and oil and grease from storm water runoff.

The quest for “Clean Boatyard” status required independent contractors to change their mindsets, and in some instances it required them to purchase such equipment as vacuum sanders and HVLP paint spray systems.

Now, contractors are bragging about the recognition, and work hard to maintain the “clean” status. More boat owners bring their vessels to PSMC because they have instituted sound management practices with a strong commitment to protecting the environment.



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Rayonier, Inc.

FERNANDINA MILL FERNANDINA BEACH, FLORIDA

Preserving the water quality of our coastal estuaries is essential for Florida's future. To protect these nurseries of marine life, it will take the collaborative efforts of communities, business and environmental advocates. An excellent example of this was the scientific study and remedies developed jointly among academics, the Florida Department of Environmental Protection (FDEP) and Rayonier's Fernandina Beach Performance Fibers Mill.

Prior to renewal of Rayonier's treated wastewater permit, FDEP sampled the Amelia River and concluded that phytoplankton levels were lower than expected, and that ammonia levels in the estuary exceeded those found in the State's other rivers, suggesting that ammonia may be a factor as a toxic agent.

Rayonier commissioned Dr. Robert "Skip" Livingston, a noted FSU professor and expert in the field of marine ecosystems, to study the Amelia River and nearby Nassau River as a control. The study concluded ammonia was the likely cause and Rayonier developed and implemented a series of initiatives to reduce the discharge of ammonia. A follow-up study documented an 80 percent reduction in ammonia concentrations, and that there was no statistical difference between the plankton in the Amelia system and the non-industrialized Nassau system.



This initiative combined the efforts of the academic community, state regulatory authorities and industry to leverage resources and enhance the water quality of the Amelia River Estuary. Every water quality parameter that could reasonably be measured was investigated during the studies, costing \$1.3 million. In addition to funding the studies, Rayonier invested \$1.2 million in capital costs for the new ammonia reduction system at the mill and incurs additional operating costs of \$800,000 annually—no small feat when one considers the highly competitive economic environment in which the mill operates.

This public-private collaborative effort is a success story at resolving complex environmental issues based on sound scientific investigation and was accomplished through an atmosphere of mutual trust and a willingness to work together to solve problems.

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Seagrass Recovery, Inc.

RUSKIN

The importance of submerged seagrass beds to Florida is now well documented. Seagrasses provide stabilization of shallow bottoms, improve water quality, and are critical nursery areas for many important commercial and recreational fisheries.

Our food chain depends on seagrass where juvenile fish and crustaceans hide and feed. Sea cows and turtles also eat the vegetation. Phytoplankton, microscopic algae that small fish eat, begin life on the blades of grass. One mature red fish may spawn one million eggs, but if there are no seagrass beds in which to hide, the juvenile fish will be easy prey or disappear with the current. Crabs and shrimp hide and live in the forest we call seagrass, and without the beds they too will become sparse. Seagrass is the major player in all of the aquatic life cycle.

As Florida's population continues to increase, more people are attracted to the recreational opportunities that shallow estuaries provide, placing increased stress on the resources that drew people in the first place. The increase in propeller scarring of seagrass beds is becoming a major concern statewide.

Jim Anderson, a Ruskin sod farmer, used his years of experience in agriculture to develop a boat designed to plant seagrasses. In November 2000, Anderson completed the fabrication of the seagrass Mega Unit Transplanting Vessel (MUTV). This patented vessel was designed to remove and replant 4x5 slabs of seagrass. Three additional vessels were completed in 2001.

In addition to the seagrass transplant and injection boats, Anderson has developed a sand sock sediment tube to stabilize and repair seagrass prop scars and blowout areas with positive results now being documented.

Successful seagrass recovery efforts have been documented for Cockroach Bay and at Lignumvitae Key. Preliminary results at Port Manatee are very positive for the success of the MUTV.

All over Florida's coastal areas there are thousands of acres of seagrass habitat in stress and need of restoration.

Jim Anderson's innovative vessels and procedures can have a positive impact on seagrass recovery efforts statewide.



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Tampa Bay Watch

ST. PETERSBURG, FLORIDA

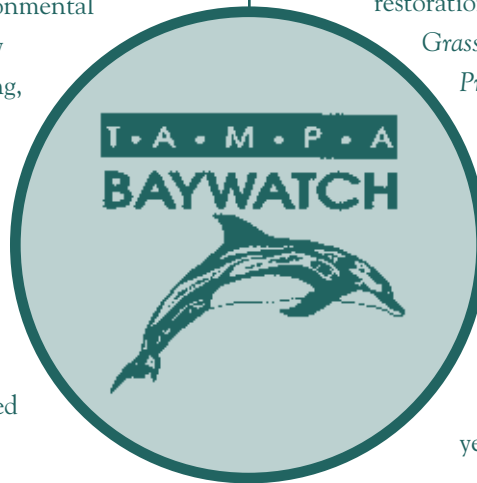
Tampa Bay is Florida's largest open water estuary and is the economic powerhouse for the Gulf Coast of Florida. Tampa Bay contributes more than \$8.2 billion every year to our economy through its ports, industry, and commercial/recreational fisheries. It supports a diverse and growing population of over 2.4 million residents, and another 18 million tourists visit the region each year.

Tampa BayWatch is a non-profit environmental stewardship program for the Tampa Bay estuary, devoted to monitoring, restoring, and protecting the marine and wetland environments of the bay. Founded in 1993, Tampa BayWatch performs habitat restoration and protection activities with the help of thousands of volunteers. Over its lifetime, Tampa BayWatch has mobilized more than 18,000 volunteers who have helped to:

- Plant 368,620 salt marsh grasses in habitat restoration projects, restoring hundreds of acres of wetlands.
- Construct 80 seagrass restoration plots in Hillsborough Bay and upper Tampa Bay.
- Clear more than 60 colonial bird nesting islands each year of deadly fishing line, and remove more than 69 tons of marine debris from the bay's shorelines.
- Construct 28 one-ton oyster bars to improve water quality and marine habitat, restore hard bottom and reduce erosion in the first community-based oyster restoration project in Tampa Bay.

- Install more than 900 oyster reef units along existing public and private seawall areas on the bay.
- Create the Tampa Bay Manatee Watch Program to provide on-the-water educational tools to boaters to protect the endangered Florida manatee.

A major focus of Tampa BayWatch has been to promote student awareness and involvement in regional habitat restoration efforts. In 1994 they initiated the *Bay Grasses in Classes—Coastal Wetland Nursery Program*, which currently includes 15 middle and high schools that have established salt marsh nurseries which provide salt marsh planting units for restoration efforts. In addition to providing hand-on education and involvement of students, the initiative has saved public restoration agencies over \$160,000 in the last three years.



Tampa Bay Watch's most recent accomplishment was the construction of the nation's first compressed natural gas powered outboard catamaran boat which, christened by the head of the EPA, is now in service as the flagship monitoring vessel.

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Vilano Beach Waterfronts Florida Community

ST. JOHNS COUNTY

Vilano Beach is an excellent example of recreating a coastal area to provide a sustainable future for its residents. Located on a coastal barrier island immediately north of St. Augustine inlet in St. Johns County, this coastal community was threatened by the relocation of a new A1A bridge. Citizens turned this challenge into an opportunity by creating and designing a vision for their future that would preserve the character and sense of community while utilizing new sustainable planning concepts to guide a dynamic future.

The Vilano Beach Town Center is the original 1920's half-mile main street that fronts panoramic waterfront views of the Atlantic Ocean sunrises and Intracoastal Waterway marsh sunsets. With some of the buildings having fallen into disrepair, the community went through an extensive visioning process and created a new Town Center design. Designated a Florida Waterfronts Community by the Florida Department of Community Affairs in 1999, community leaders and the St. Johns County planning office have leveraged this grant to become a model of resourcefulness and collaboration. They have secured project funding or technical assistance from numerous sources.

Accomplishments at Vilano Beach include:

- Gateway Landscaping that welcomes residents and visitors to Town Center.
- A Town Center and Streetscape Design for improvements and development.



- The design and permitting of two Pavilions that will serve as community beacons for the sunrise (beach side) and sunset (intracoastal side).
- Fishing Pier improvements including environmental signage, shaded picnic tables, benches and swings.
- A Nature Greenway Boardwalk that promotes environmental education and links the north residential area under the new bridge to the Town Center.
- A Storm water Management Plan that eliminates drainage ditches and allows for angle parking in the streetscape design.
- Zoning Overlay for the Town Center that establishes two architectural designs for development: Art Deco Modern and Florida Vernacular
- A Technical Assistance Guide on the standards to provide incentives for quality, consistent development in the area.
- Creation of a Community Redevelopment Area to provide a funding mechanism for public, Town Center and street design improvements.

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WCI Communities

BONITA SPRINGS, FLORIDA

The Caloosahatchee River is the major source of freshwater to the southern Charlotte Harbor ecosystem and forms a major estuary of the Gulf of Mexico. It flows westwardly out of Lake Okeechobee across the state past Ft. Myers and empties into San Carlos Bay directly impacting several barrier islands, most notably Sanibel and Pine Island. In a healthy state the estuary is very rich in species diversity and functions as a nursery area for many species of commercial and recreational importance.

This southwest area of Florida is one of our most rapidly growing areas, and with so many newcomers, both the challenge and benefit of conservation efforts and education are great. WCI Communities is a major developer in the area and has set out to make its Gulf Harbour Marina on the Caloosahatchee River a model in establishing environmentally friendly practices.

In an effort to reduce emissions and pollution along the coast, Gulf Harbour Marina became the first marina in the nation to take on the challenge of switching to the use of biodiesel, an alternative fuel made from vegetable oil.

WCI hosted a workshop for marine engine mechanics to explain the properties of the fuel which requires no engine modification whatsoever. Biodiesel experts were on hand to answer questions and to assure that engine warranties would not be jeopardized. WCI also held meetings with boat owners and met with them one-on-one to explain and educate them about the benefits of biodiesel fuel.

A slightly higher cost for biodiesel (8 cents per gallon) was initially an issue so WCI opted to absorb the additional cost in order to encourage the use of the fuel. The industry anticipates that as demand increases, costs will go down. It is a renewable resource that can be made from soybean oil, canola oil, or recycled restaurant grease.

Additionally, WCI has implemented other Clean Marina initiatives and is awaiting final designation of that accolade. The engineering for the marina ensured that the marina basin would flush and circulate in less than 6 hours and the marina received recognition from the Environmental Protection Agency for the design.

Located in an area where manatees were some of the first visitors, WCI has worked with Save the Manatee Club seeking its guidance on how manatee protection would best be served, and have contributed generously to further enforcement efforts to protect manatees in the area.



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Council for Sustainable Florida

The mission of the Council for Sustainable Florida is to improve Florida's environment and economy, while building a safer, healthier, higher quality of life for all of its citizens. Now in its eleventh year of operations, the Council—governed by prominent business representatives, environmentalists, government officials, educators, and civic leaders—is dedicated to promoting and expanding sustainable practices and programs in Florida.

Publication Credits

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